# Appendix F

## Water Resources

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## Wetland Delineation and Waters of the US Report

SR 3 and SR 46 North Junction

Washington Township, Decatur County, Indiana Des. No. 1700050

Report Completed: March 31, 2020



## **Prepared for:**



Indiana Department of Transportation 185 Agrico Lane Seymour, IN 47274 Phone: 855-463-6848

## Submitted by:



CHA Consulting, Inc. Union Station / 300 South Meridian Street Indianapolis, IN 46225 Phone: 317-780-7182

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**Appendix C**: Wetland Determination Data Forms **Appendix D**: Preliminary Jurisdictional Determination Form



## Wetland Delineation and Waters of the US Report SR 3 and SR 46 North Junction Washington Township, Decatur County, Indiana Des. No. 1700050

Report Completed: March 31, 2020

### I. Introduction

The Indiana Department of Transportation (INDOT) is proposing to proceed with the improvements of the State Road (SR) 3 and SR 46 (Base Road) north junction in Washington Township, Decatur County, Indiana. The purpose of this investigation was to identify wetlands and waterways within and adjacent to the project area. A routine wetland determination, per the 1987 Corps of Engineers Wetland Delineation Manual (Y-87-1) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) was conducted. This report details the findings of the investigation.

The project is located at the SR 3 and SR 46 north junction, near reference post 117 on SR 3 in Decatur County, Indiana (Attachment A, State Location Map). Specifically, the project is located in Section 9, Township 10 North, Range 9 East as shown on the Forest Hill, Indiana United States Geological Survey (USGS) 7.5 Minute Quadrangle (Attachment A, USGS Project Location Map).

## **II. Existing Data**

## 7.5 Minute USGS Quadrangle Maps and Watershed

The USGS map was reviewed to determine the topography and drainage patterns within the project area. The map indicates that the project area and surrounding terrain is relatively flat with the elevation ranging from approximately 920 to 930 feet. A perennial blue line stream, Muddy Fork Sand Creek is present east of the project area.

Drainage basins are divided into hydrologic units by the USGS based on major river systems. The entire project area is within the 8-digit Hydrologic Unit Code (HUC); 05120206, Upper East Fork White Watershed.

### National Wetland Inventory (NWI) Map

The U.S. Fish and Wildlife Service (USFWS) NWI maps identify potential wetlands based on high-level imagery interpretation. The wetlands are then classified by type utilizing the Cowardin classification system. The classification system provides information on wetland vegetation type, water regime, and any relevant alterations. This level of mapping does not determine regulatory boundaries. The NWI map was evaluated for the presence of potential jurisdictional wetlands within the project area (Attachment A, NWI Wetlands Map). No NWI wetlands are mapped within the study area. The nearest NWI is mapped 0.11-mile southeast of the project area, identified as a PUBGh, freshwater pond, palustrine, unconsolidated bottom, intermittently exposed, dike/impounded.

## **County Soil Survey Map**

The Natural Resources Conservation Service (NRCS) Web Soil Survey was reviewed to determine soil classification within the project area (Attachment A, NRCS Soils Map). Six (6) soil types were identified within the project area (Table 1, on the following page). Fincastle silt loam (FcA), Miami silt loam (MmB2), Williamstown silt loam (WmB), and Zenia silt loam (XnA) are identified as partially hydric and Cyclone silt loam (Cy) is identified as hydric.



Table 1. Soil Summary

Soil Type	Symbol	<b>Drainage Rating</b>	Hydrology	Hydric Rating	Hydric
Cyclone silt loam, 0-2 percent slopes	Су	Poorly drained	Frequent ponding	85%	Yes
Fincastle silt loam, 0 to 2 percent slopes	FcA	Somewhat poorly drained	None	10%	Partially
Miami silt loam, 2 to 6 percent slopes, eroded	MmB2	Moderately well drained	None	5%	Partially
Miami clay loam, 6 to 12 percent slopes, severely eroded	МоС3	Moderately well drained	None	0%	No
Williamstown silt loam, 2 to 6 percent slopes, eroded	WmB	Moderately well drained	None	5%	Partially
Xenia silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	XnA	Moderately well drained	None	5%	Partially

## Flood Map

The Indiana Department of Natural Resources (IDNR) Best Available Floodzone Mapping was reviewed for the presence of the Special Flood Hazard Areas. The project is not located within any designated floodplains.

## III. Waters of the U.S

## Jurisdictional Wetland Determination/Delineations

The project area was analyzed using methods outlined in the 1987 Corps of Engineers Wetland Delineation Manual (Y-81-1) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0).

#### **Jurisdictional Waterways**

The project area was analyzed for Waters of the U.S. using the U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (2007) and Regulatory Guidance Letter (RGL) No. 05-05.

#### IV. Field Reconnaissance

CHA staff conducted a field investigation on October 14, 2019 to determine the presence of wetlands, Waters of the U.S., and Waters of the State within the project area. Locations of data points, wetlands and streams are provided in Attachment A on the Photo Orientation Map. Photographs of the project area and Wetland Delineation Data Forms are included in Attachments B and C, respectively. The following provides a brief description of the findings of the field investigation.



#### **Streams**

### Unnamed Tributary 1 (UNT 1)

UNT 1 is an ephemeral stream located adjacent to SR 3 on the southeast side of the highway with an ordinary high-water mark (OHWM), exhibiting bed and bank at approximately 1 foot wide and 0.25 feet deep, with a drainage area of 0.04 square miles. UNT 1 starts east of the SR 46 junction to SR 3, flows northeast parallel with SR 3, and then heads southeast out of the project area. UNT 1 appears to be connected through an impounded pond to the southeast of the project area that outlets to Muddy Fork Sand Creek, a Relatively Permanent Water (RPW) and Waters of the U.S. Substrate consisted of silt. UNT 1 possesses a narrow riparian corridor, and no excess erosion along the bank. The stream is considered to be in poor condition due to surrounding agricultural land use, narrow riparian buffer, and little aquatic habitat. UNT 1 would likely be considered a Waters of the US.

#### Roadside Ditches (RSD)

There were no roadside ditches identified within the project area during the field investigation.

#### Wetlands

#### Wetland A

Wetland A is a small emergent wetland that is 0.145 acre in size. This wetland is east of the culvert under the north side of SR-46 and west of the culvert under SR 3. The wetland extends to the eastern culvert under SR 3. The wetland is considered poor quality based on the small size, the surrounding agricultural land use, the presence of invasive species, and its proximity to the highway and the utilization as a roadside ditch. This wetland is connected through an UNT to Greensburg City Park Lake eventually connecting to Muddy Fork Sand Creek. Due to this connection, Wetland A would be considered a Waters of the U.S. and will be under the jurisdiction of the USACE.

<u>Data Point 1</u> was located within Wetland A. The dominant species at this data point was *Typha X glauca* (hybrid cattail, OBL). This data point passed the Rapid Test for Hydrophytic Vegetation, Dominance Test, and Prevalence Index, therefore; meeting the hydrophytic vegetation criterion. The soil profile, from 0 to 3 inches, was silty clay loam that had a color of 10YR 4/1 (90%) with 7.5YR 4/6 (10%) redox concentrations in the matrix. From 3-18 inches, the soil profile was a silty clay loam that had a color of 10YR 5/1 (75%) with 10YR 6/8 (25%) redox concentrations in the matrix. The hydric soil indicator Depleted Matrix (F3) was observed at this data point, indicating that hydric soils are present. Geomorphic position (D2) and FAC-Neutral Test (D5) were the observed secondary hydrology indicators, signifying that wetland hydrology was present. As all three required criteria were considered met, DP-1 was located within a wetland.

<u>Data Point 2</u> was located in an upland area adjacent to Wetland A. The dominant species at this data point was *Festuca arundinacea* (tall fescue, FACU). Data point 2 did not meet the hydrophytic vegetation criterion, due to no hydrophytic vegetation being present. The soil sample, from 0-5 inches, was silty clay loam that had a color of 10YR 4/3 (100%). From 5-18 inches, the soil profile was a silty clay loam that had a color of 10YR (5/3) (100%). There were no hydric soil indicators observed for data point 2, therefore no hydric soil was present. No hydrology indicators were noted, consequently there was no wetland hydrology at this data point. As the required criteria were not met, data point 2 is not located within a wetland.



#### **Data Points**

A total of two data points were taken along the project area. DP-1 was located within Wetland A and DP-2 was in an upland area adjacent to Wetland A. Table 2 provides a summary of these data points.

Table 2. Summary of Data Points

Data		Latitude/	Wetlan	Wetland/		
Point	Photos	Landude/ Longitude	Hydrophytic Vegetation	Hydric Soils	Hydrology	Upland
DP-1	PP-9	39.334058 -85.521138	Rapid Test, Dominance Test, and Prevalence Test	Depleted Matrix (F6)	Geomorphic position (D2) and FAC-Neutral test (D5)	Wetland
DP-2	PP-10	39.334007 -85.521089	No	No	No	Upland

## V. Conclusion

One ephemeral UNT was identified within the project area (Table 3). One emergent wetland was identified within the project area (Table 4). These waters resources were identified as Waters of the U.S. and will be under the jurisdiction of the USACE.

**Table 3. Summary of Stream Resources** 

Stream Name	Photos	Latitude/ Longitude	OHWM Width/ Depth	USGS Blue Line	Pools/ Riffles	Substrate	Stream Quality	Water s of the U.S.	Steam Type
UNT 1	PP-13	39.333690 -85.520524	1'/0.25'	No	No	Silt	Poor	Yes	Ephemeral

**Table 4. Summary of Wetland Resource** 

_ 50.5 _ 7 .5 5	0 <b>00-0</b>						_
Wetland Name	Photos	Latitude/ Longitude	Wetland Type	Acres	Wetland Quality	Waters of the U.S.	
Wetland A	PP-8,9,10,11,12	39.334204 -85.520882	PEM1A	0.145	Poor	Yes	

A preliminary jurisdictional determination form is included in Attachment D outlining the water resources described in this report. Every effort should be taken to avoid and minimize impacts to these water resources. If impacts are necessary, then mitigation may be required. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgment based on the guidelines set forth by the USACE.

## VI. Acknowledgment

This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience, and professional judgement in conformance with the 1987 Corps of Engineers Wetland Delineation Manual, the appropriate regional supplement, the USACE Jurisdictional Determination Form Instructional Guidebook, and other appropriate agency guidelines.

CHA

Report Prepared By:

Mackenzie Knotts

3/31/2020

Date

Environmental Scientist CHA Consulting, Inc.

Report Reviewed By:

Summer Elmore, PWS Date

Summer Elmore, PWS Senior Scientist CHA Consulting, Inc.

## VII. References

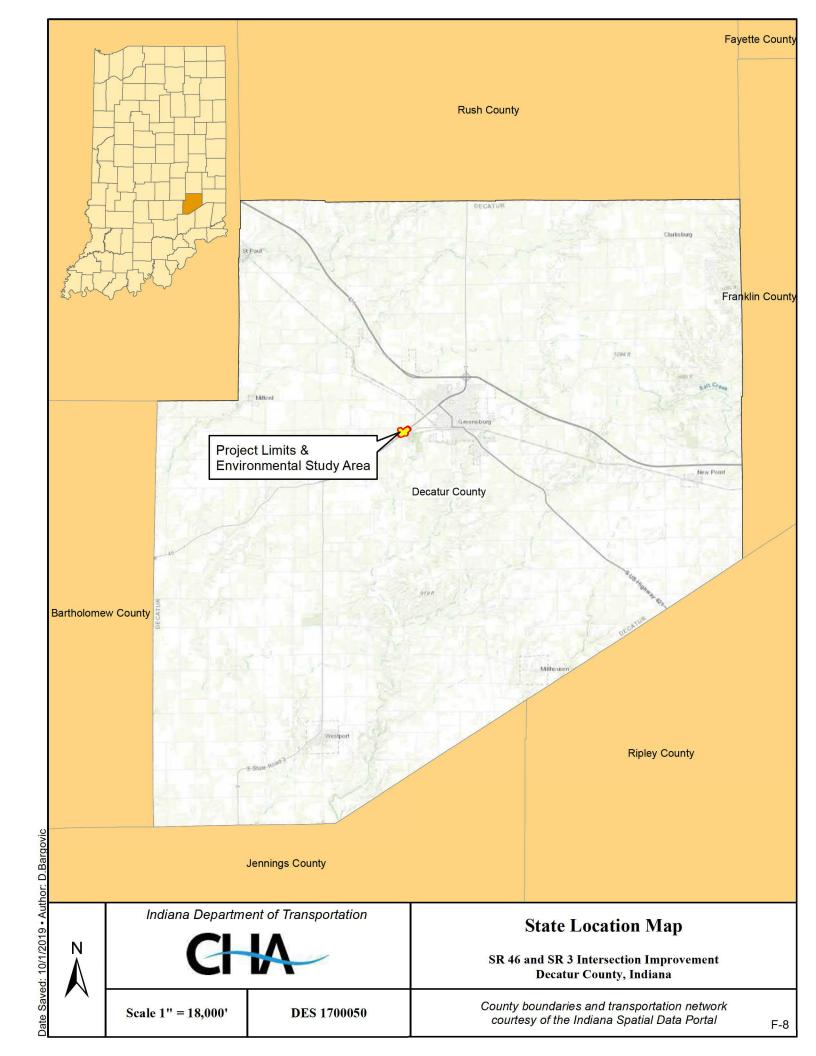
Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

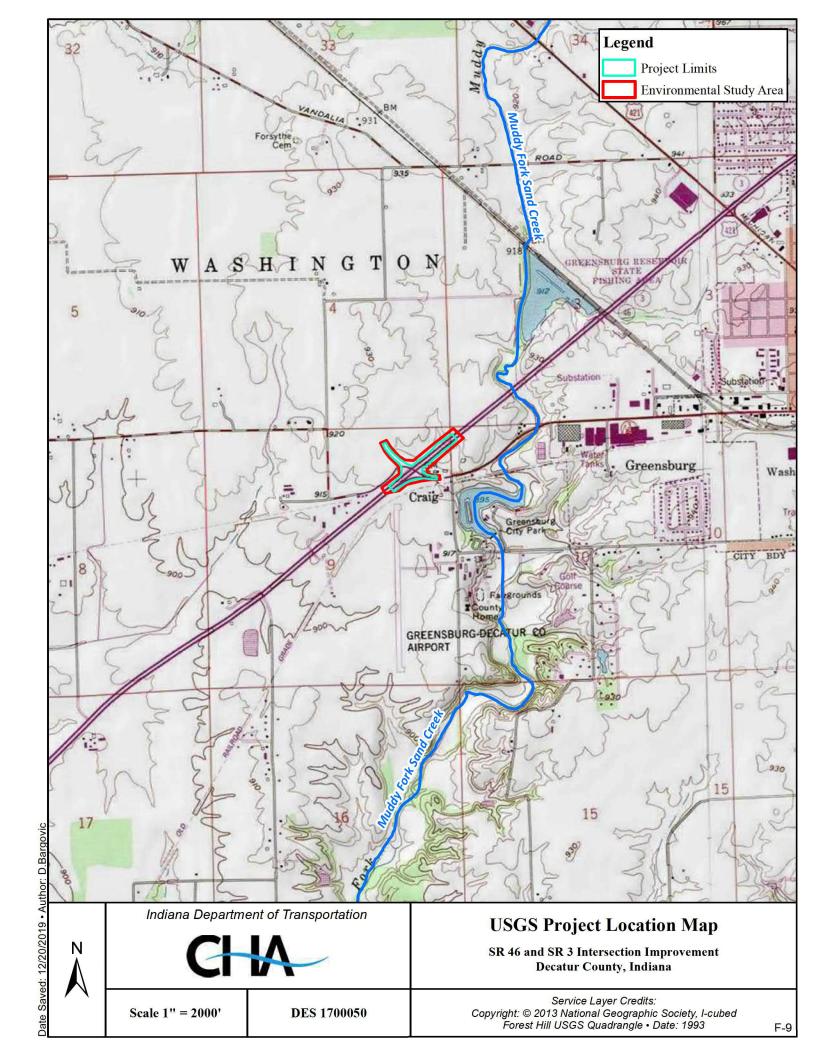
Newcomb, Lawrence. 1977. Newcomb's Wildflower guide: an ingenious new key system for quick, positive field identification of the wildflowers, flowering shrubs and vines of Northeastern and North Central North America. Boston: Little, Brown and Company.

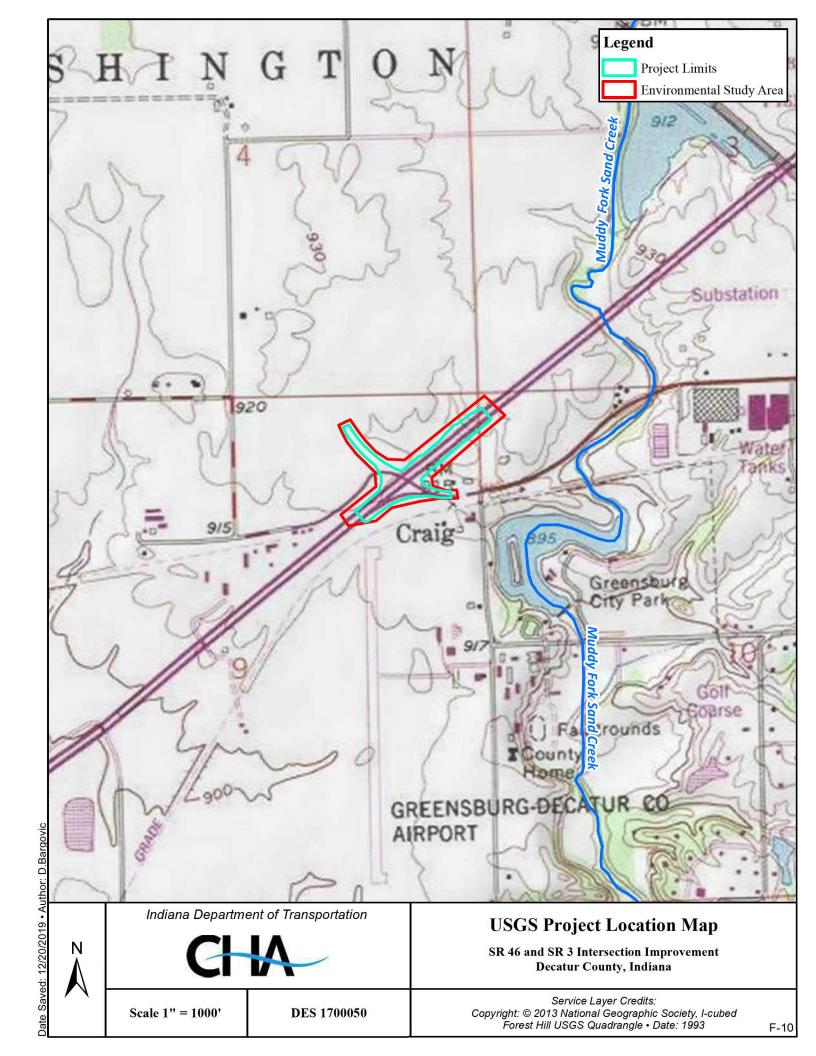
United States Department of Agriculture, Natural Resources Conservation Service. 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

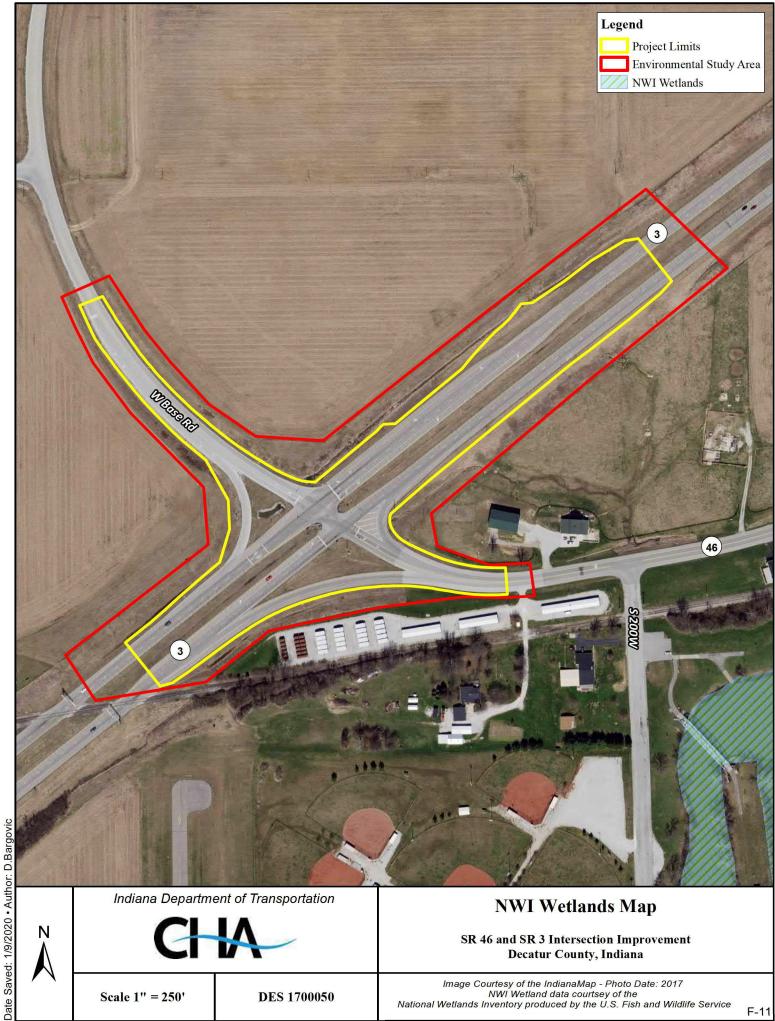
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- U.S. Army Corps of Engineers. 2005. *Regulatory Guidance Letter* (No. 05-05). Published 07 December 2005. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-16.
  Vicksburg, MS: U.S. Army Engineer Research and Development Center.











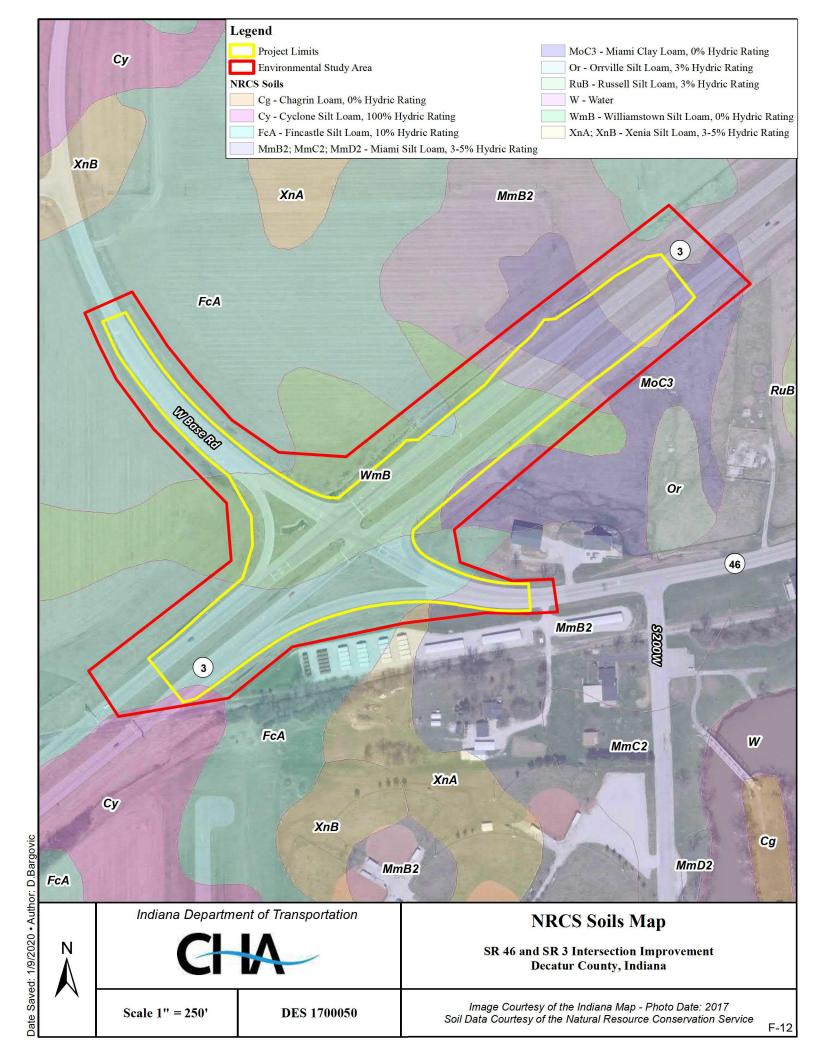


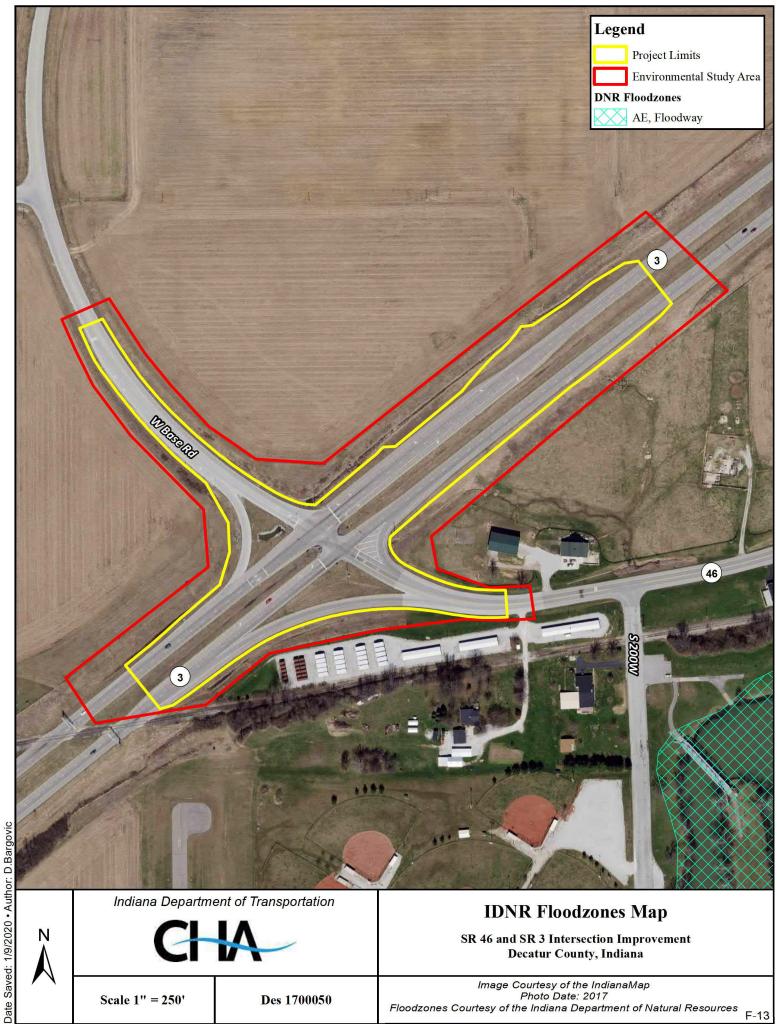
SR 46 and SR 3 Intersection Improvement **Decatur County, Indiana** 

Scale 1" = 250'

**DES 1700050** 

Image Courtesy of the IndianaMap - Photo Date: 2017 NWI Wetland data courtsey of the National Wetlands Inventory produced by the U.S. Fish and Wildlife Service





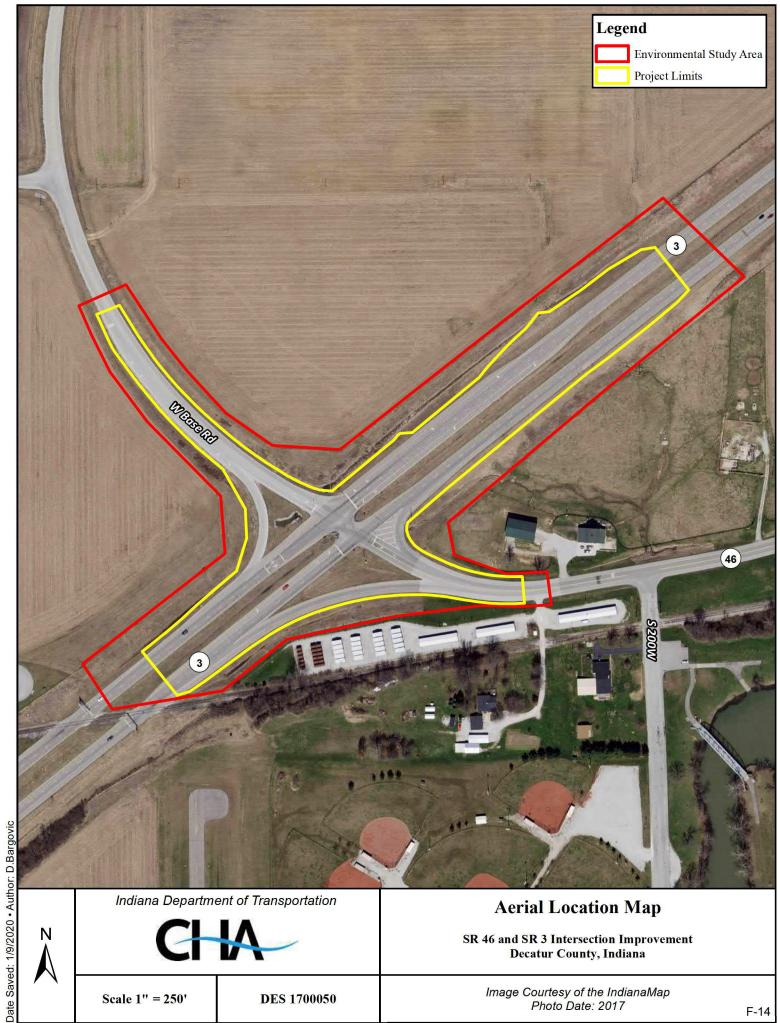


SR 46 and SR 3 Intersection Improvement **Decatur County, Indiana** 

Scale 1" = 250'

Des 1700050

Image Courtesy of the IndianaMap Photo Date: 2017 Floodzones Courtesy of the Indiana Department of Natural Resources





SR 46 and SR 3 Intersection Improvement Decatur County, Indiana

Scale 1" = 250'

**DES 1700050** 

Image Courtesy of the IndianaMap Photo Date: 2017

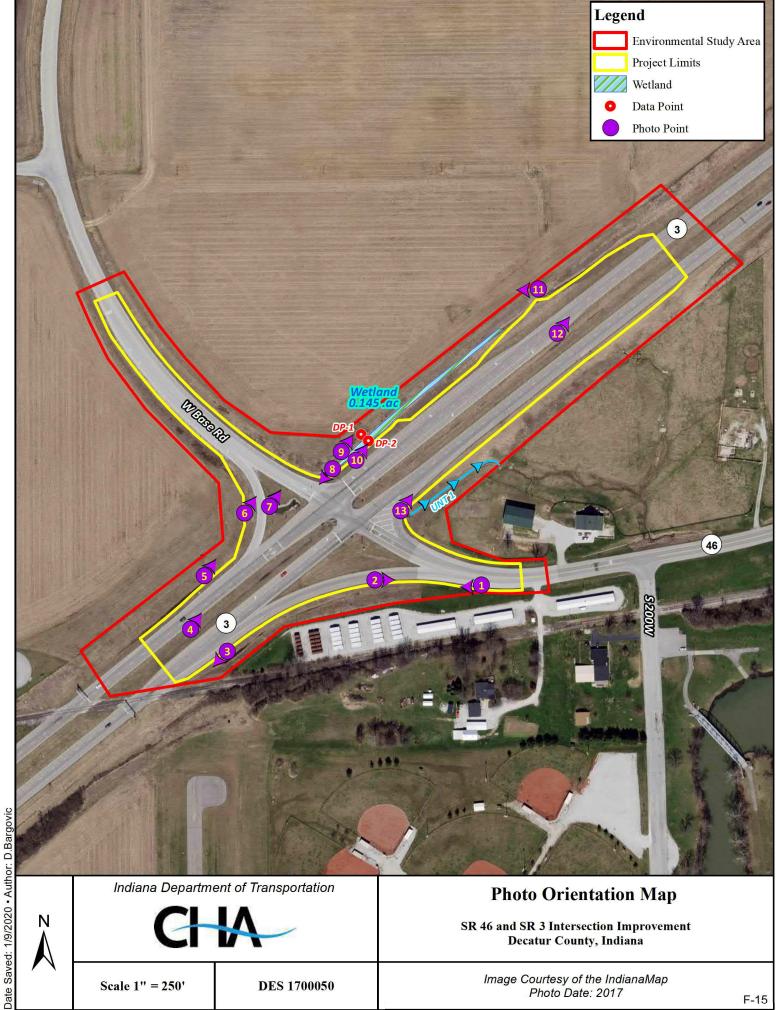


Photo Date: 2017

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PP-1: Looking west from the southeast side of the project area along SR 46 (2019-10-14)



PP-3: Looking southwest from the southwest side of the project area along SR 3 (2019-10-14)

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PP-2: Looking east at the southwest junction from SR 3 to SR 46 (2019-10-14)



PP-4: Looking northeast from the median of SR 3 at the western portion of the project area (2019-10-14)



PP-5: Looking northeast along SR 3 from the northwest junction from SR 46 to SR 3 (2019-10-14)



PP-7: Looking northeast at the riprap and culverts on the northwest side of the project area (2019-10-14)

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PP-6: Looking northeast at the culverts under the SR 46 junction to SR 3 on the northwest side of the project area (2019-10-14)



PP-8: Looking northeast at the culverts and riprap at the west side of the Wetland A (2019-10-14)



PP-8: Looking southwest at the culverts and riprap at the south end of Wetland A (2019-10-14)



PP-9: Looking down at the soil profile for DP-1 in Wetland A (2019-10-14)

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PP-9: Looking northeast from DP-1 along Wetland A (2019-10-14)



PP-10: Looking at the upland area northeast adjacent to Wetland A from DP-2 (2019-10-14)

PP-10: Looking down at the upland soil profile of DP-2 adjacent to Wetland A (2019-10-14)



PP-12: Looking northeast from SR 3 median on the east end of the project area (2019-10-14)

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PP-11: Looking west at the culvert located east of Wetland A (2019-10-14)



PP-13: Looking northeast at UNT 1 along SR 3 downstream (2019-10-14)

### **WETLAND DETERMINATION DATA FORM - Midwest Region**

	Long.	ownship, Range: Local relief (c	oncave, convex, none): concave	
andform (hillslope, terrace, etc.): Ditch  ope:o Lat.: 39.334058  oil Map Unit Name:Williamstown Silt Loam  re climatic/hydrologic conditions on the site typical for this time of yea  re Vegetation, Soil, or Hydrology significe Vegetation, Soil, or Hydrology naturate	Long	Local relief (c	oncave, convex, none): concave	
ope:	r? Yes No C	:85.521138	Da	tum: NAD 1983
oil Map Unit Name: Williamstown Silt Loam re climatic/hydrologic conditions on the site typical for this time of yea re Vegetation , Soil , or Hydrology signi re Vegetation , Soil , or Hydrology natu	r? Yes No C	A. A. S. B. S.		tum: NAD 1983
oil Map Unit Name: Williamstown Silt Loam re climatic/hydrologic conditions on the site typical for this time of yea re Vegetation , Soil , or Hydrology signi re Vegetation , Soil , or Hydrology natu	r? Yes • No C	(If no, ex		
re climatic/hydrologic conditions on the site typical for this time of year very very very very very very very ver	ificantly disturbed?	(If no, ex	11111 01000111001111 [10]]	Δ.
re Vegetation	ificantly disturbed?		olain in Remarks.)	<u>C</u>
re Vegetation , Soil , or Hydrology natu		Are "No	rmal Circumstances" present?	Yes ● No ○
	rally problematic?			
UMMARY OF FINDINGS - Attach site map showing			ed, explain any answers in Remarl	•
	ng sampling po	oint location	ıs, transects, important	features, etc.
lydrophytic Vegetation Present? Yes  No	l			
lydric Soil Present? Yes  No		the Sampled A thin a Wetland		
Vetland Hydrology Present? Yes   No				
Remarks:				
VEGETATION - Use scientific names of plants	. Domina			
900 3 (mile 470 1119) 42 80 (800) 70 11 11 11 11 11 11 11 11 11 11 11 11 11	Species	s? ———	Dominance Test worksheet:	
	Absolute Rel.Stra % Cover Cover	The second secon		
1	0 0.0%	6	Number of Dominant Species That are OBL, FACW, or FAC:	1(A)
2	0 0.0%	6	Total Number of Deminant	
3	0 0.0%	6	Total Number of Dominant Species Across All Strata:	1(B)
4	0 0.0%		Develop of deminent Charles	
5	0 0.09		Percent of dominant Species That Are OBL, FACW, or FAC	100.0% (A/B)
_Sapling/Shrub Stratum (Plot size:)	0 = Total C	over	S	
1.	0 0.0%	6	Prevalence Index worksheet: Total % Cover of:	Multiply by
2.	0 0.0%		OBL species 100	Multiply by: x 1 = 100
3.	0 0.0%		FACW species 0	x 2 = 0
4.	0 0.0%	6	FAC species 0	x 3 = 0
5	0 0.0%	6	FACU species 0	x 4 =0
_Herb Stratum (Plot size: 5 feet )	0 = Total C	Cover	UPL species 0	x 5 =0
1. Typha X glauca	90.09	% OBL	Column Totals:100	(A) <u>100</u> (B)
2. Scirpus atrovirens	10 10.09	% OBL	Prevalence Index = B/A	= 1.000
3.	0 0.0%	6	E CRISSEN DEL ESSENDENCE SEGURIPPET ESSENDENCE SEGURIPPET DE CRISSEN EN EL CRISSE DE L'ARCHITECTURE DE CRISSEN DE L'ARCHITECTURE DE CRISSEN DE L'ARCHITECTURE DE CRISSEN DE CRI	
4	0 0.0%	6	Hydrophytic Vegetation Indic  1 - Rapid Test for Hydroph	
5	0 0.0%	6	✓ 2 - Dominance Test is > 5	
6	0 0.0%		✓ 3 - Prevalence Index is ≤3	
7 8.	0 0.09			ions <sup>1</sup> (Provide supporting
9.	0 0.09		data in Remarks or on a se	eparate sheet)
10.	0 0.09		Problematic Hydrophytic \	/egetation $^1$ (Explain)
	100 = Total C		1 Indicators of hydric soil and	wetland hydrology must
Woody Vine Stratum (Plot size:)			be present, unless disturbed	or problematic.
1	0 0.09		Hydrophytic	
2	0 0.0%		Vegetation	0
	0 = Total C	over	Present? Yes V	
Remarks: (Include photo numbers here or on a separate shee				

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL Sampling Point: DP-1

Depth	Matrix			Red	ox Featu	res					
(inches) Color (r	1600 100	%	Color (	moist)	%	Tvpe <sup>1</sup>	Loc2	Textu	ure		Remarks
0-3 10YR	4/1	90	7.5YR	4/6	10	С	M	Silty Clay Loa			
								-			
3-18 10YR	5/1	75	10YR	6/8	25	C	М	Silty Clay Loa	am —		
					-						
				·	·			-			
Tunas C. Cananatuatian D.	- Danlation	DM-Dadua	ad Materia	CC - Cavara	d au Cast		,	21 anations DI	-Dava Linina	M Matrix	
Type: C=Concentration, D	=Depletion,	RM=Reduct	eu Matrix,	CS=Covere	ed or Coal	eu Sanu Gr	ains.	<sup>2</sup> Location: PL	.=Pore Lining.	M=Matrix.	
Hydric Soil Indicators:								Indicator	rs for Proble	matic Hydri	c Soils <sup>3</sup> :
Histosol (A1)				ndy Gleyed	1,5	1)		Coast	Prairie Redox	(A16)	
Histic Epipedon (A2)			Sar	ndy Redox (	(S5)				Surface (S7)	()	
Black Histic (A3)			Stri	ipped Matri	x (S6)				langanese Ma	ccoc (F12)	
Hydrogen Sulfide (A4)			Loa	amy Mucky	Mineral (F	1)			-		×.
Stratified Layers (A5)			Loa	amy Gleyed	Matrix (F	2)			Shallow Dark S	•	)
2 cm Muck (A10)			<b>✓</b> De	pleted Matri	ix (F3)			U Other	(Explain in Re	ma <mark>r</mark> ks)	
Depleted Below Dark S		L)	Rec	dox Dark Su	ırface (F6	)					
☐ Thick Dark Surface (A1			De	pleted Dark	Surface (	F7)		3 Indicato	ors of hydroph	vtic vegetatio	on and
Sandy Muck Mineral (S	1)		Rec	dox Depress	sions (F8)			wetla	and hydrology	must be pre	sent,
5 cm Mucky Peat or Pe	at (S3)			•				unle	ess disturbed	or problemat	ic.
	arved).										
Restrictive Layer (if obse	ci veu ji										
Restrictive Layer (if observed) Type:											
-	ei veu ji							Hydric Soil	Present?	Yes	No O
Type:								Hydric Soil	Present?	Yes •	No O
Type:								Hydric Soil	Present?	Yes •	No O
Type:								Hydric Soil	Present?	Yes •	No O
Type:	cators:							Hydric Soil	Present?	Yes •	No O
Type: Depth (inches): Remarks:	cators:	required; c	heck all th	nat apply)							No O
Type:	cators:	required; c		nat apply) Vater-Staine	ed Leaves	(B9)		Seco		ors (minimur	
Type: Depth (inches): Remarks:  IYDROLOGY  Wetland Hydrology Indicentifications (minimum of the content of the	cators: um of one is	required; c	_ v			(B9)		Seco	ondary Indicat	ors (minimur racks (B6)	
Type:	cators: um of one is	required; c	□ w	Vater-Staine	na (B13)			Seco	ondary Indicat Surface Soil Ci	ors (minimur racks (B6) erns (B10)	n of two required)
Type:	cators: um of one is	required; c	□ w □ a □ t	Vater-Staine Aquatic Faur	na (B13) : Plants (B	514)		Second Se	ondary Indicat Surface Soil Ci Drainage Patto	ors (minimur racks (B6) erns (B10) 'ater Table (C	n of two required)
Type:	cators: um of one is	required; c	☐ W ☐ A ☐ T ☐ H	Vater-Staine Aquatic Faur rue Aquatic	na (B13) : Plants (E ulfide Odo	s14) r (C1)	Roots (C3)	Second Se	ondary Indicat Surface Soil Ci Drainage Patto Dry Season W Crayfish Burro	ors (minimur racks (B6) erns (B10) 'ater Table (C wws (C8)	n of two required)
Type:	cators: um of one is	required; c	W   A   T   H   C	Vater-Staine Aquatic Faur True Aquatic Hydrogen Su	na (B13) : Plants (E ulfide Odo zospheres	114) r (C1) s on Living F	Roots (C3)	Second	ondary Indicat Surface Soil Ci Drainage Patto Dry Season W Crayfish Burro	ors (minimur racks (B6) erns (B10) 'ater Table (C ws (C8) ible on Aerial	n of two required) (2) Imagery (C9)
Type:	cators: um of one is	required; c	☐ W ☐ A ☐ T ☐ H ☐ C ☐ P	Vater-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of	na (B13) Plants (E ulfide Odo zospheres Reduced	i14) r (C1) s on Living F Iron (C4)			ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str	ors (minimur racks (B6) erns (B10) fater Table (C lows (C8) ible on Aerial ressed Plants	n of two required) (2) Imagery (C9)
Type:	cators: um of one is	required; c	W A A T H C C P P R	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior	i14) r (C1) s on Living F Iron (C4) n in Tilled Sc		Secc	ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: Im of one is		☐ W ☐ A ☐ T ☐ H ☐ C ☐ P ☐ R	Vater-Staine Aquatic Faur True Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck St	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C	r (C1) r (C1) s on Living F Iron (C4) n in Tilled Sc 7)		Secc	ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: um of one is )	ery (B7)	W   A   T   C   C   C   C   C   C   C   C   C	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck So Gauge or We	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C) ell Data (E	(14) r (C1) s on Living F fron (C4) n in Tilled Sc (7)		Secc	ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: um of one is )	ery (B7)	W   A   T   C   C   C   C   C   C   C   C   C	Vater-Staine Aquatic Faur True Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck St	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C) ell Data (E	(14) r (C1) s on Living F fron (C4) n in Tilled Sc (7)		Secc	ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: um of one is )	ery (B7)	W   A   T   C   C   C   C   C   C   C   C   C	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck So Gauge or We	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C) ell Data (E	(14) r (C1) s on Living F fron (C4) n in Tilled Sc (7)		Secc	ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: um of one is ) Aerial Image	ery (B7) ace (B8)	W A A T H C C C P P C G C C C C C C C C C C C C C	Vater-Staine Aquatic Faur True Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C ell Data (I	id (14)  r (C1)  s on Living F  Iron (C4)  n in Tilled Sc (7) (29)  arks)		Secc	ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: um of one is  Aerial Image ncave Surfa	ery (B7) ace (B8)	W   A   T     H	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Didized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (Eulfide Odo zospheres Reduced Reductior urface (Ci ell Data (I inin in Rem	(14) r (C1) s on Living F (ron (C4) n in Tilled Sc (7) (29) arks)		Secc	ondary Indicat Surface Soil Ci Drainage Pattr Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: um of one is ) Aerial Image	ery (B7) ace (B8)	W   A   T     H	Vater-Staine Aquatic Faur True Aquatic Hydrogen Su Dxidized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (Eulfide Odo zospheres Reduced Reductior urface (Ci ell Data (I inin in Rem	(14) r (C1) s on Living F (ron (C4) n in Tilled Sc (7) (29) arks)	pils (C6)	Second	ondary Indicat Surface Soil Co Drainage Patto Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P FAC-Neutral T	ors (minimur racks (B6) erns (B10) fater Table (C wws (C8) ible on Aerial ressed Plants osition (D2) est (D5)	n of two required) (2) Imagery (C9) (D1)
Type:	cators: um of one is  Aerial Image ncave Surfa	ery (B7) ace (B8)  No  No  No	W   A   T   T   H   C   C   C   C   C   C   C   C   C	Vater-Staine Aquatic Faur True Aquatic Hydrogen Su Didized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C ell Data (I nin in Rem hes):	(14) r (C1) s on Living F Iron (C4) n in Tilled Sc (7) (29) arks)  0	pils (C6)	Secc	ondary Indicat Surface Soil Co Drainage Patto Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P FAC-Neutral T	ors (minimur racks (B6) erns (B10) fater Table (C ows (C8) ible on Aerial ressed Plants osition (D2)	n of two required) (2) Imagery (C9)
Type:	cators: um of one is  Aerial Image ncave Surfa  Yes  Yes	ery (B7) ace (B8)  No   No   No   No   No	W   A   T	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Didized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla  Depth (incl Depth (incl	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C ell Data (I nin in Rem hes): hes): hes):	(14) r (C1) s on Living F Iron (C4) n in Tilled Sc (7) (29) arks)  0 0	bils (C6)	Second Se	ondary Indicat Surface Soil Ci Drainage Patte Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P FAC-Neutral T	ors (minimur racks (B6) erns (B10) fater Table (C wws (C8) ible on Aerial ressed Plants osition (D2) est (D5)	n of two required) (2) Imagery (C9) (D1)
Type:	cators: um of one is  Aerial Image ncave Surfa  Yes  Yes	ery (B7) ace (B8)  No   No   No   No   No	W   A   T	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Didized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla  Depth (incl Depth (incl	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C ell Data (I nin in Rem hes): hes): hes):	(14) r (C1) s on Living F Iron (C4) n in Tilled Sc (7) (29) arks)  0 0	bils (C6)	Second Se	ondary Indicat Surface Soil Ci Drainage Patte Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P FAC-Neutral T	ors (minimur racks (B6) erns (B10) fater Table (C wws (C8) ible on Aerial ressed Plants osition (D2) est (D5)	n of two required) (2) Imagery (C9) (D1)
Type:	cators: um of one is  Aerial Image ncave Surfa  Yes  Yes	ery (B7) ace (B8)  No   No   No   No   No	W   A   T	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Didized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla  Depth (incl Depth (incl	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C ell Data (I nin in Rem hes): hes): hes):	(14) r (C1) s on Living F Iron (C4) n in Tilled Sc (7) (29) arks)  0 0	bils (C6)	Second Se	ondary Indicat Surface Soil Ci Drainage Patte Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P FAC-Neutral T	ors (minimur racks (B6) erns (B10) fater Table (C wws (C8) ible on Aerial ressed Plants osition (D2) est (D5)	n of two required) (2) Imagery (C9) (D1)
Type:	cators: um of one is  Aerial Image ncave Surfa  Yes  Yes	ery (B7) ace (B8)  No   No   No   No   No	W   A   T	Vater-Staine Aquatic Faur Frue Aquatic Hydrogen Su Didized Rhi Presence of Recent Iron Thin Muck Si Gauge or We Other (Expla  Depth (incl Depth (incl	na (B13) c Plants (E ulfide Odo zospheres Reduced Reductior urface (C ell Data (I nin in Rem hes): hes): hes):	(14) r (C1) s on Living F Iron (C4) n in Tilled Sc (7) (29) arks)  0 0	bils (C6)	Second Se	ondary Indicat Surface Soil Ci Drainage Patte Dry Season W Crayfish Burro Saturation Vis Stunted or Str Geomorphic P FAC-Neutral T	ors (minimur racks (B6) erns (B10) fater Table (C wws (C8) ible on Aerial ressed Plants osition (D2) est (D5)	n of two required) (2) Imagery (C9) (D1)

US Army Corps of Engineers Midwest Region - Version 2.0

F-21

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: SR 46 and SR 3 Junction Intersection Improvement Des.	No. 1700050 City/County: Decatur C	County Sampling Date: 14-Oct-19
pplicant/Owner: INDOT	Sta	ate: Indiana Sampling Point: DP-2
nvestigator(s): _M. Baughman & M. Knotts	Section, Township, Ran	nge: S 9 T 10 R 9
andform (hillslope, terrace, etc.): Hillside	Local relie	ef (concave, convex, none): concave
olope:/ ° Lat.: 39.44007	Long.:85.5210	89 Datum: NAD 1983
ioil Map Unit Name: Williamstown Silt Loam	3 -00.0210	NWI classification: None
re climatic/hydrologic conditions on the site typical for this time o	f vear? Yes O No (If no	, explain in Remarks.)
		"Normal Circumstances" present? Yes • No •
3 - 1 - 1 - 1 - 3		needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sho	owing sampling point locat	cions, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		
Hydric Soil Present? Yes No	Is the Sample within a Wetla	
Wetland Hydrology Present? Yes O No 💿		100 - 110 -
Remarks:		
<b>VEGETATION</b> - Use scientific names of pla	nts. <b>Dominant</b>	
	Species? ————————————————————————————————————	or Dominance Test worksheet:
_Tree Stratum_(Plot size:)	% Cover Cover Status	
1	0	That are OBL, FACW, or FAC:  (A)
2	0	Total Number of Dominant
3		Species Across All Strata:1(B)
4 5.		Percent of dominant Species
5	0 0.0% 0 = Total Cover	That Are OBL, FACW, or FAC: 0.0% (A/B)
_Sapling/Shrub Stratum (Plot size:)	= Total Cover	Prevalence Index worksheet:
1.	0 0.0%	Total % Cover of: Multiply by:
2.	0 0.0%	OBL species 0 x 1 = 0
3.	0 0.0%	FACW species 0 x 2 = 0
4	0	FAC species x 3 =30
5	0	FACU species90 x 4 =360
<u>Herb Stratum</u> (Plot size: 5	0 = Total Cover	UPL species
1 Festuca arundinacea	90 <b>9</b> 90.0% FACU	Column Totals: <u>100</u> (A) <u>390</u> (B)
2. Setaria pumila	55.0% FAC	Prevalence Index = B/A = 3.900
3. Poa pratensis	55.0% FAC	Hydrophytic Vegetation Indicators:
4	0	1 - Rapid Test for Hydrophytic Vegetation
56.	0	2 - Dominance Test is > 50%
7	0 000/	3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0 0.0%	$\square$ 4 - Morphological Adaptations $^1$ (Provide supporting
9.	0 0.0%	data in Remarks or on a separate sheet)
10.	0 0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
W. L. V. G (Diet size)	= Total Cover	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0 0.0%	be present, unless disturbed of problematic.
1. 2.		
	0 = Total Cover	Vegetation Yes No •
	– Total Covel	
Remarks: (Include photo numbers here or on a separate	sheet.)	
ζ	<b>,</b>	

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL Sampling Point: DP-2

				JOHN THE CHE	e absence of indicators.)
Depth Mat (inches) Color (mois		600 00 100 100	Features  W Type 1	Loc2	Toytura Pamarka
		Color (moist)	_%IVBE	LOC2	Texture Remarks Silty Clay Loam
				-	
5-18 10YR 5	5/3 100				Silty Clay Loam
				-	
<sup>1</sup> Type: C=Concentration, D=De	pletion, RM=Reduce	ed Matrix, CS=Covered (	or Coated Sand G	rains.	<sup>2</sup> Location: PL=Pore Lining. M=Matrix.
Hydric Soil Indicators:					Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)		Sandy Gleyed Ma	trix (S4)		_
Histic Epipedon (A2)		Sandy Redox (S5)	)		Coast Prairie Redox (A16)
Black Histic (A3)		Stripped Matrix (S	S6)		Dark Surface (S7)
Hydrogen Sulfide (A4)		Loamy Mucky Mir	neral (F1)		☐ Iron Manganese Masses (F12)
Stratified Layers (A5)		Loamy Gleyed Ma			☐ Very Shallow Dark Surface (TF12)
2 cm Muck (A10)		Depleted Matrix (	. ,		Other (Explain in Remarks)
Depleted Below Dark Surfa	ice (A11)	Redox Dark Surfa			
☐ Thick Dark Surface (A12)					2
Sandy Muck Mineral (S1)		Depleted Dark Su			Indicators of hydrology must be present
5 cm Mucky Peat or Peat (S	53)	Redox Depression	ns (F8)		wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observe	-d):				
Type:					
Depth (inches):					Hydric Soil Present? Yes ○ No ●
Remarks:					
No hydric soils indicators	Were observed				
	were observed				
	- Weite observed				
HYDROLOGY  Wetland Hydrology Indicato	ors:				
HYDROLOGY	ors:	neck all that apply)			Secondary Indicators (minimum of two required)
HYDROLOGY  Wetland Hydrology Indicato	ors:	heck all that apply)	Leaves (B9)		Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)
HYDROLOGY  Wetland Hydrology Indicato  Primary Indicators (minimum o	ors:				
Wetland Hydrology Indicato Primary Indicators (minimum o Surface Water (A1) High Water Table (A2)	ors:	Water-Stained I Aquatic Fauna (	(B13)		Surface Soil Cracks (B6) Drainage Patterns (B10)
Wetland Hydrology Indicato Primary Indicators (minimum o Surface Water (A1) High Water Table (A2) Saturation (A3)	ors:	Water-Stained I Aquatic Fauna ( True Aquatic Pl	(B13) ants (B14)		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2)
Wetland Hydrology Indicato Primary Indicators (minimum o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ors:	Water-Stained I Aquatic Fauna ( True Aquatic Pl Hydrogen Sulfic	(B13) ants (B14) de Odor (C1)	Poote (C3)	Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)
Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ors:	Water-Stained I Aquatic Fauna ( True Aquatic Pl Hydrogen Sulfic Oxidized Rhizos	(B13) ants (B14) de Odor (C1) spheres on Living	Roots (C3)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ors:	Water-Stained I Aquatic Fauna ( True Aquatic Pli Hydrogen Sulfic Oxidized Rhizos Presence of Rec	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4)		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
HYDROLOGY  Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ors:	Water-Stained I Aquatic Fauna ( True Aquatic Pl Hydrogen Sulfic Oxidized Rhizos Presence of Rec	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ors: of one is required; ch	Water-Stained I Aquatic Fauna ( True Aquatic Pland I Hydrogen Sulfic Oxidized Rhizos Presence of Rec Recent Iron Rec	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S ace (C7)		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
HYDROLOGY  Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ors: of one is required; ch	Water-Stained I Aquatic Fauna ( True Aquatic Pl Hydrogen Sulfic Oxidized Rhizos Presence of Rec	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S ace (C7)		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ors:  of one is required; check the	Water-Stained I Aquatic Fauna ( True Aquatic Pland I Hydrogen Sulfic Oxidized Rhizos Presence of Rec Recent Iron Rec	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S ace (C7) Data (D9)		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aeria	ors:  of one is required; check the	Water-Stained I Aquatic Fauna ( True Aquatic Pli Hydrogen Sulfic Oxidized Rhizos Presence of Rec Recent Iron Rec Thin Muck Surfa	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S ace (C7) Data (D9)		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aeria Sparsely Vegetated Concavers	ors:  of one is required; check the	Water-Stained I Aquatic Fauna ( True Aquatic Pli Hydrogen Sulfic Oxidized Rhizos Presence of Rec Recent Iron Rec Thin Muck Surfa Gauge or Well I Other (Explain i	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S ace (C7) Data (D9) in Remarks)		Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aeria Sparsely Vegetated Concav  Field Observations: Surface Water Present?	ors:  of one is required; check the control of the	Water-Stained I Aquatic Fauna ( True Aquatic Pland I Hydrogen Sulfic Oxidized Rhizos Presence of Rec Recent Iron Rec Thin Muck Surfa Gauge or Well I Other (Explain i	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S ace (C7) Data (D9) in Remarks)		Surface Soil Cracks (B6)  Drainage Patterns (B10)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)
Wetland Hydrology Indicator Primary Indicators (minimum or Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aeria Sparsely Vegetated Concav  Field Observations: Surface Water Present? Water Table Present?	ors: of one is required; check the state of	Water-Stained I Aquatic Fauna ( True Aquatic Pli Hydrogen Sulfic Oxidized Rhizos Presence of Rec Recent Iron Rec Thin Muck Surfa Gauge or Well I Other (Explain i	(B13) ants (B14) de Odor (C1) spheres on Living duced Iron (C4) duction in Tilled S ace (C7) Data (D9) in Remarks)  6):  0 6:	Soils (C6)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
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US Army Corps of Engineers Midwest Region - Version 2.0

#### Attachment D

#### SR 3 and SR 46 North Junction

#### PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

## BACKGROUND INFORMATION

- A. REPORT COMPLETION DATE FOR PJD: March 31, 2020
- B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Mackenzie Knotts, CHA Consulting Inc., Union Station, 300 S Meridian Street, Indianapolis, IN 46225 for Indiana Department of Transportation

C.	DISTRICT OFFICE, FILE NAME, AND NUMBER:

## D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The Indiana Department of Transportation (INDOT) is proposing to proceed with the improvements of the State Road (SR) 3 and SR 46 north junction in Washington Township, Decatur County, Indiana. The project is located at the SR 3 and SR 46 north junction, near reference post 117 on SR 3.

# (USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

Project: SR 3 and SR 46 north junction improvements, Des. No. 1700050

State: Indiana County: Decatur County City: southwest of Greensburg

Center coordinates of site (lat/long in degree decimal format):

Lat.: 39.333493 Long.: -85.521228

Universal Transverse Mercator: 16S 627449.00, 4354828.31

Name of nearest waterbody: Greensburg City Park Lake

## E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Ш	Office (Desk) Determination	n.
	Date: Field Determination.	Date(s)

# TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Resource Name	Latitude	Longitude	Amount of Aquatic Resource in Review Area	Type of Aquatic Resource	Geographic authority to which the aquatic resource "may be" subject		
Wetland A	39.334204	-85.520882	0.145 acre	Emergent Wetland	Section 404		
UNT 1	39.333690	-85.520524	281 linear feet	Ephemeral, Non- Wetland Waters	Section 404		

#### Attachment D

### SR 3 and SR 46 North Junction

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre- construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization: (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD: (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

### **Attachment D**

# SR 3 and SR 46 North Junction SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

	Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:  Map:
	Data sheets prepared/submitted by or on behalf of the PJD requestor.  Office concurs with data sheets/delineation report.  Office does not concur with data sheets/delineation report. Rationale:
	Data sheets prepared by the Corps:
	Corps navigable waters' study:
	U.S. Geological Survey Hydrologic Atlas:  USGS NHD data.  USGS 8 and 12 digit HUC maps.
	U.S. Geological Survey map(s). Cite scale & quad name: <u>1:24,000 Forest Hill, Indiana Quadrangle</u> . Natural Resources Conservation Service Soil Survey. Citation: <u>NRCS Web Soil Survey</u> .
	National wetlands inventory map(s). Cite name: <u>USFWS NWI Mapper</u> .
	State/local wetland inventory map(s):
	FEMA/FIRM maps: DNR Best Available Floodplain Maps.
	100-year Floodplain Elevation is:(National Geodetic Vertical Datum of 1929) Photographs: Aerial (Name & Date): IndianaMap 2017.
	or Other (Name & Date): Site Photos October 14, 2019.
	Previous determination(s). File no. and date of response letter:
	Other information (please specify):
be	IPORTANT NOTE: The information recorded on this form has not necessarily seen verified by the Corps and should not be relied upon for later jurisdictional eterminations.
Re	gnature and date of egulatory staff member empleting PJD  Markenii know 03/31/2020  Signature and date of person requesting PJD  (REQUIRED, unless obtaining the signature is impracticable) <sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

# Appendix G

# Air Quality

Item	Appendix
Statewide Transportation Improvement Plan (STIP)	G-1 to G-2

#### Indiana Department of Transportation (INDOT)

SPONSOR	CONTR ACT#/ LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2018	2019	2020	2021
Indiana Department of Transportation	40378 / 1296326	A 37	174	HMA Overlay, Preventive Maintenance	From SR 3 to New Point Interchange	Seymour	8.99	NHPP	\$6,000,000.00	Road Construction	CN	-\$6,449,749.20	-\$716,638.80		(\$12,448,178.0 0)	\$5,281,790.00	
Comments:Move to 2	2020.																
Indiana Department of Transportation	40378 / 1296326	Init.	174	HMA Overlay, Preventive Maintenance	From SR 3 to New Point Interchange	Seymour	8.99	NHPP		Road Construction	CN	\$11,203,360.20	\$1,244,817.80		\$12,448,178.00		
	•					•				Road Consulting	PE	\$180,000.00	\$20,000.00	\$200,000.00			
Indiana Department of Transportation	40426 / 1602260	A 01	SR 3	Small Structure Replacement	At 16.17 miles N of SR 7	Seymour	1	STP	\$1,083,425.00	Bridge ROW	RW	\$8,000.00	\$2,000.00				\$10,000.0
			•	•	•	•				Bridge Consulting	PE	\$86,400.00	\$21,600.00	\$108,000.00			
Comments:Amend P	E phase in F	Y 2018 aı	nd RW pha	se in FY 2021 to the curre	nt STIP. No MPO.						•	1					
Indiana Department of Transportation	40426 / 1602260	M 09	SR 3	Small Structure Replacement	At 16.17 miles N of SR 7	Seymour		STP	\$1,175,425.00	Bridge Consulting	PE	\$73,600.00	\$18,400.00	(\$108,000.00)	\$200,000.00		
Comments:Move PE	from FY 201	8 to FY 2	019 and inc	crease. No MPO.	•			•	•	•	•		•	*			
Indiana Department of Transportation	40427 / 1700050	A 06	SR 3	Other Intersection Improvement	At the intersection of SR 3 and SR 46 (North Junction).	Seymour	.2	NHPP	\$1,579,672.00	Safety Consulting	PE	\$160,000.00	\$40,000.00		\$200,000.00		
Comments:Amend P	E phase in F	Y 2019 to	current ST	IP. No MPO.						•							
Indiana Department of Transportation	40428 / 1600489	A 01	SR 46	Bridge Deck Replacement	0.9 mile E US 421, over Sand Creek	Seymour		STP	\$1,227,000.00	Bridge Consulting	PE	\$100,000.00	\$25,000.00	\$125,000.00			
Comments:Amend P	E phase in F	Y 2018 to	the curren	t STIP. No MPO.	1	1		•	1	1						110	
Indiana Department of Transportation	40428 / 1600489	M 09	SR 46	Bridge Deck Replacement	0.9 mile E US 421, over Sand Creek	Seymour		STP	\$1,227,000.00	Bridge Consulting	PE	\$0.00	\$0.00	(\$125,000.00)	\$125,000.00		
Comments:Move PE	phase from	FY 2018 t	o FY 2019.	No MPO.	<u> </u>	L	-				•						
Indiana Department of Transportation	40428 / 1602278	A 01	SR 46	Small Structure Replacement	At 9.29 miles E of East Jct of US 421	Seymour		STP	\$512,781.00	Bridge Consulting	PE	\$86,400.00	\$21,600.00	\$108,000.00			
				<u>.                                    </u>						Bridge ROW	RW	\$8,000.00	\$2,000.00				\$10,000.0
Comments:Amend P	E phase in F	Y 2018 aı	nd RW pha	se in FY 2021 to the curre	nt STIP, No MPO.												
Indiana Department of Transportation	40428 / 1602278	M 09	SR 46	Small Structure Replacement	At 9.29 miles E of E Jct of US 421	Seymour	3	STP	\$512,781.00	Bridge Consulting	PE	\$0.00	\$0.00	(\$108,000.00)	\$108,000.00		
Comments:Move PE	phase from	FY 2018 t	o FY 2019.	No MPO.			-		•		•						
Indiana Department of Transportation	40655 / 1600502	M 10	US 421	Br Repl, Reinforced Conc. Construction	5.33 miles N of SR 229 over Vernon Fk Muscatatuck River	Seymour		NHPP	\$1,813,882.00	Bridge Consulting	PE	\$0.00	\$0.00	(\$150,000.00)	\$150,000.00		
										Bridge Construction	CN	\$290,743.20	\$72,685.80				\$363,429.0
Comments:Move PE	phase from	FY 2018 t	to FY 2019.	Increase in CN. No MPC	).												
Indiana Department of Transportation	40935 / 1801200	A 17	US 421	Small Structure Maint and Repair	7.40 miles N of SR 229	Seymour	1	NHPP	\$105,249.00	Bridge Construction	CN	\$68,199.20	\$17,049.80			\$85,249.00	
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#### Indiana Department of Transportation (INDOT)

State Preservation SPONSOR	and Loc	al Initiat	ed Proje	cts FY 2020 - 2024 WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL	Estimated	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
or oncorr	ACT#/ LEAD DES	NAME	ROUTE	WORKTHE	EGGANGN	Sionaer .	I	CATEGORY	Cost left to Complete Project*	T NOOIVAIII	TIAGE	TEDERAL	MAIGH	2020	2021	2022	2023	2024
Indiana Department of Transportation	40426 / 1602260	Init.	SR 3	Small Structure Replacement	At 16.17 miles N of SR 7	Seymour	C	STPBG		Bridge Construction	CN	\$716,340.00	\$179,085.00			\$895,425.00		
Indiana Department of Transportation	40427 / 1700050	Init.	SR 3	Other Intersection Improvement	At the intersection of SR 3 and SR 46 (North Junction).	Seymour	.25	NHPP		Safety Construction	(CN	\$1,159,825.60	\$289,956.40			\$1,449,782.00		
Indiana Department of Transportation	40428 / 1600489	Init.	SR 46	Bridge Deck Replacement	0.9 mile E US 421, over Sand Creek	Seymour	C	STPBG		Bridge ROW	RW	\$64,000.00	\$16,000.00		\$80,000.00			
		l	<u> </u>				<u> </u>			Bridge Construction	CN	\$1,319,610.40	\$329,902.60			\$1,649,513.00		
Indiana Department of Transportation	40655 / 1600502	Init.	US 421	Br Repl, Reinforced Conc. Construction	5.33 miles N of SR 229 over Vernon Fk Muscatatuck River	Seymour		NHPP		Bridge ROW	RW	\$16,000.00	\$4,000.00	\$20,000.00				
		•				•	•			Bridge Consulting	PE	\$80,000.00	\$20,000.00		\$100,000.00			
										Bridge Construction	CN	\$1,147,072.80	\$286,768.20		\$1,433,841.00			
Indiana Department of Transportation	40935 / 1801200	Init.	US 421	Small Structure Maint and Repair	7.40 miles N of SR 229	Seymour		NHPP		Bridge Construction	CN	\$126,964.80	\$31,741.20	\$158,706.00				
Indiana Department of Transportation	40945 / 1800964	Init.	SR 3	HMA Overlay, Preventive Maintenance	0.49 miles N of I-74 to 6.26 miles N of I-74 (District line)	Seymour	5.76	NHPP		Road Construction	CN	\$1,260,298.40	\$315,074.60		\$1,575,373.00			
Indiana Department of Transportation	40946 / 1800972	Init.	SR 46	HMA Overlay, Preventive Maintenance	0.83 miles E of E Jct US 421 (B ase Rd.) to 0.29 miles W of SR 229	Seymour	13,563	STPBG		Bridge Construction	CN	\$2,570,727.20	\$642,681.80		\$3,213,409.00			
Indiana Department of Transportation	41272 / 1801416	Init.	174	ITS Traffic Management Systems	CCTV Cameras/Detection from US 421 to US 52	Seymour	37.131	NHPP		Statewide Construction	CN	\$787,500.00	\$87,500.00	\$875,000.00				
Indiana Department of Transportation	41460 / 1801008	Init.	US 421	Small Structure Replacement	10.91 mi N of SR 229	Seymour	C	NHPP		Bridge ROW	RW	\$32,000.00	\$8,000.00		\$40,000.00			
			•	•			•		•	Bridge Consulting	PE	\$554,400.00	\$138,600.00	\$680,000.00			\$13,000.00	
										Bridge Construction	CN	\$600,686.40	\$150,171.60				\$750,858.00	
Indiana Department of Transportation	41463 / 1800256	Init.	SR 46	Pavement Replacement	E Jct US 421 to 0.83 miles E of E Jct US 421 (Base Rd)	Seymour	.839	NHPP		Road ROW	RW	\$320,000.00	\$80,000.00		\$400,000.00			
				•	•	1	•	ı	1	Road Construction	CN	\$5,636,281.60	\$1,409,070.40			\$4,000.00	\$7,041,352.00	
Indiana Department of Transportation	42527 / 1802985	A 04	US 421	Small Structure Replacement	03.45 mile N of SR 229	Seymour	0	STBG	\$812,383.00	Bridge ROW	RW	\$32,000.00	\$8,000.00			\$40,000.00		
					,	1		ı		Bridge Consulting	PE	\$200,000.00	\$50,000.00	\$250,000.00				
										Bridge Construction	CN	\$417,906.40	\$104,476.60					\$522,383.00

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<sup>\*</sup>Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

## Appendix H

## **Additional Studies**

Item	Appendix Page
DOI Land & Water Conservation Fund Grants	H-1

## United States Department of the Interior National Park Service Land & Water Conservation Fund

Decatur County LWCF Project List

<b>Grant ID &amp; Element</b>	State	County	<b>Grant ID Element</b>	Type	Grant Element Title	<b>Grant Sponsor</b>	Fiscal Year	Amount
60772	Indiana	<b>DECATUR</b>	426	D	PARK LAKE DREDGING	DECATUR COUNTY PARK BOARD	1984	100000

H-1